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ABSTRACT

Materials designed for use in tutoring programs in mathematics are described. A list of educational products on tutoring, subdivided into tutoring programs and tutoring kits, is provided. Listings contain information on the target audience for the product and a brief description of the contents. Ordering information for the products is included. (JD)

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MATH SKILLS

PROGRAMS USING TUTORS

An Educational Products Information Booklet

Developed by:

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Florida State University
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FLORIDA LINKAGE SYSTEM PROJECT
Office of Educational Dissemination/Diffusion
Florida Department of Education

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State of Florida
Department of Education
Tallahassee, Florida
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INTRODUCTION

On the following pages, you will be introduced to educational products and strategies which use tutoring as an effective educational tool. The tutors for these products may be peers, students of other ages or grade levels, adult aides or volunteers, or parents.

All of the products listed have demonstrated their effectiveness in field testing. This means that if you implement the program as specified, you can expect that your students will achieve in a manner similar to field-tested students.

If you are receiving this package as a response to a stated problem, you will note that some product names have been checked. These products appear to match the situation you have described. Descriptions of checked products are included in this information packet. If you wish, you may request information on products not checked.

If you have requested general information on the topic, you will receive only the list of math skills programs that use tutors. You may receive more specific information on any of the products listed by detaching the form on the last page, checking the name of the products for which you wish to receive more information and sending it to FREE, Office of Educational Dissemination/Diffusion, Florida Department Of Education, The Knott Building, Tallahassee, Florida 32304. The telephone number you may call collect is:(904) 487-1078.

Be sure to state the name of the product for which you wish to receive more information, and the name of the packet in which it is listed. (The name of this packet is: MATH SKILLS PROGRAMS USING TUTORS.)

Math Skills

Programs Using Tutors

A tutoring program is one in which a non-professional person directly teaches one student or small groups of students. The tutor can be a peer, an older student, a para-professional aide, or a community volunteer, such as a parent or grandparent.

Tutoring should be done in a setting where the tutor and the tutee (student) are in close proximity. Some programs direct the tutor to sit beside the student. A corner of the classroom or the resource center, or niche in the hall, a special laboratory or "home" room - any of these may serve as the place for tutoring. Since tutoring requires the exchange of information in which the tutor instructs and questions and the student responds, tutoring should occur in a setting where the noise will not affect other students.

EFFECTIVENESS OF TUTORING

Tutoring is an effective strategy for reinforcing math skills because:

1) The student tends to stay on-task because of the tutor's attention.

2) The student is able to receive immediate information following the task which corrects his response or praises his accomplishment. In this way, incorrect responses are not practices, and are thus eliminated more quickly.

Research on tutoring indicates that as well as growth in basic math skills, students show gains in affective and social outcomes. Students who serve as tutors show basic skills and affective gains as well as students who receive tutoring. (For an annotated bibliography of research, see Peer and Cross Age Tutoring in the Schools, by Sophie Bloom, U.S. Department of HEW, 1976.)

CHARACTERISTICS OF A SUCCESSFUL TUTORING PROGRAM

The following list of characteristics is based upon the experiences of successful tutoring programs, such as the School Volunteer Development Project, Programmed Tutorial Reading, and High Intensity Tutoring.

1. The principal and/or a group of teachers have thought out the goals for the program.

2. The principal and/or a group of teachers have identified the type of student who will receive tutoring. (For example: students one-year below grade level; students who failed to pass Math Standards D,E,F on the 5th grade state assessment test, etc.)

3. The principal has assigned two school persons as coordinators and monitors of the tutoring program.

4. The location of each tutor has been set and will remain consistent. The setting permits a verbal exchange between tutor and student.

5. The scheduling of tutoring sessions has been established. The sessions are scheduled for about 30 minutes. Research findings support that 15 minutes of basic skills practice is an optimal learning time. Personal exchange and getting materials set and records updated take the rest of the 30 minutes.

6. The materials have been selected to fit the students' needs. The materials are designed so that progress occurs in small steps. The materials provide simple directions for the tutors.

7. Teachers have received training on how to work with tutors.

8. Tutors have received training in techniques of tutoring and how to use the materials.

9. Tutors plan instruction and assemble materials prior to the scheduled time for student interaction.

10. The tutor, student, or coordinator has recorded the student's progress on a chart or checklist.

11. The coordinating team monitors the student's progress, and the tutor's performance and morale.

PLANNING FOR THE ADOPTION OF A TUTORING PROGRAM

A school considering the use of tutors will be successful if it answers the following questions in an early stage of planning:

1) What goals are expected to result from the tutoring program?

2) Who will be used as tutors? Peers? Cross-aged students? Adults?

3) Who will arrange the scheduling of tutors and tutees; and handle the problems which arise when one is absent?

4) Where is each tutor-tutee pair to be located?

5) Who will choose the instructional materials to be used by the tutors?

6) Who will demonstrate the materials and the technique to the tutors so that they will be effective in their task?

7) Who will monitor or supervise the tutoring to make sure that:

   a) students are making progress

   b) progress is being recorded

   c) students are receiving the type of instruction that they need.

All of the products listed in this packet have been shown effective in field testing. This list of educational products on tutoring is subdivided into tutoring programs and tutoring kits. A list of resource books and reference on tutoring is also included.

Tutoring Programs

Most of the tutoring programs listed here were developed at a school site. The programs provide help to the school in designing a tutoring program that will succeed. Each of the programs has an "answer" to the questions listed under the section, PLANNING FOR THE ADOPTION OF A TUTORING PROGRAM, so the school is assured that their tutoring program will be well designed.

HIGH INTENSITY TUTORING (HIT)

Target Audience: Students, grades 6-8, who show deficiency in math skills.

Description: Cross-age tutors (tutors may also be deficient) are used in a laboratory setting. A professional teacher supervises the tutor-tutee pair in an interaction which includes the use of programmed materials, informative feedback, record keeping and reward giving.

STUDENT TEAM LEARNING (also called TEAMS, GAMES, TOURNAMENTS).

Target Audience: Students, grades 3-12

Description: Students from all ability levels cooperate in small teams to help each other learn specific objectives . The program may be adopted by a classroom or a school.

HIGH SCHOOL PEER TUTORING PROGRAM (Homework Helpers)

Target Audience: High School students and elementary students

Description: College students or high school students provide tutoring in math to high school or upper elementary students during a two-hour tutoring session two days per week. These sessions may be during class hours or after school.

SCHOOL VOLUNTEER DEVELOPMENT PROJECT

Target Audience: Grades K-12

Description: This program is designed to provide planning for a school or school district that wants to get community, parent or high school volunteers into the school. It provides a strategy for recruiting tutors and for managing tutors.

Tutoring Kits

Tutoring kits differ from tutoring programs in that the kits provide materials to reach specific objectives without specifying management and organization of tutoring programs. Therefore, tutoring kits are more easily adopted when a single teacher in a building wants to use tutors, or when a school feels confident of its management of tutoring and wants to adopt validated materials. All of the kits listed here have

been validated in classroom trials. All have demonstrated their effectiveness in increasing math abilities in the particular skill for which they were designed.

NUMBER SKILLS PARENT TEACHING PACKAGE

Target Audience: Grades K-3

Description: The purpose of this package is to teach students to match, name, and count the numbers one through ten. This package is designed for one-on-one teaching, 10 to 15 minutes daily. Complete step-by-step instructions are provided for the tutor. While designed for parent tutors, other persons can serve as tutors. Cost: $2.25

MATH COMBINATIONS-ADDITION PARENT TEACHING PACKAGE

Target Audience: Elementary grade students who do not know how to say and write the answers to addition math combination facts automatically.

Description: The 20-minute lesson (4 times a week) consists of saying and writing answers to combinations and completing the saying or writing in a prescribed time. One-on-one tutoring is required. Complete step-by-step instructions are provided for the tutor. Cost $2.00

MATH COMBINATIONS-SUBTRACTION PARENT TEACHING PACKAGE

Target Audience: Elementary grade students who do not know how to say and write the answers to subtraction math combination facts automatically.

Description: The 20-minute lesson (4 times a week) consists of saying and writing answers to combinations and completing the saying or writing in a prescribed time. One-on-one tutoring is required. Complete step-by-step instructions are provided for the tutor. Cost $2.00

CARRYING AND BORROWING PARENT TEACHING PACKAGE

Target Audience: Elementary grade students who do not know how to carry and borrow in addition and subtraction.

Description: The 20-minute lesson (4 times a week) consists of:

1) daily math combinations review

2) recording of the results by marking seconds of time required and the correct/incorrect answers.

3) teaching carrying and borrowing

4) independent practice, and

5) the recording of the results of the independent practice.

One-on-one tutoring is required. Complete step-by-step instructions are provided for the tutor. Cost $3.75

MATH COMBINATIONS-MULTIPLICATION PARENT TEACHING PACKAGE

Target Audience: Elementary students who do not know how to say and write the answers to the multiplication math combination facts automatically.

Description: The 20-minute lesson (4 times a week) consists of saying and writing answers to combinations, and saying and writing answers to combinations fast. Timed test provide students with a record of progress. One-on-one tutoring is required. The tutor's manual contains complete step-by-step instructions. Cost $2.00

MATH COMBINATIONS-DIVISION PARENT TEACHING PACKAGE

Target Audience: Elementary students who do not know how to say and write the answers to the division math combination facts automatically.

Description: The 20-minute lesson (4 times a week) consists of saying and writing answers to combinations, and saying and writing answers to combinations fast. Timed test provide students with a record of progress. One-on-one tutoring is required. The tutor's manual contains complete step-by-step instructions. Cost $2.00

TIME TELLING PARENT TEACHING PACKAGE

Target Audience: Any elementary student who cannot tell time.

TIME TELLING PARENT TEACHING PACKAGE (continued)

Description: The purpose of this package is to teach the student to tell time to the nearest minute using the "2:45" method. The daily, 20 minute lesson is prescribed specifically in the tutor's manual. The tutor teaches the lesson. The student answers the practice exercises. The student completes a review test, and the student records progress on a thermometer chart. Cost $5.00

Resources and References on Tutoring

TECHNICAL ASSISTANCE FOR TUTORING PROGRAMS

The Florida State Department of Education has an office which can provide assistance to persons seeking information on school volunteer programs. Please contact:

Dr. Linda Dubaldi, Coordinator
School Volunteer Programs
Florida Department of Education
The Knott Building
Tallahassee, Florida 32304
Telephone (904) 488-0642

STUDENT TUTORING PROGRAM from the Panhandle Area Educational Cooperative.

An inexpensive source of staff development materials include:

Module IX-13 Approximately $1.70	Student Tutoring Program, Minipak I: Evaluation.
Module IX-14 Approximately $5.15	Student Tutoring Program, Minipak II: Prescription Writing Filmstrip: "The Impot Chain" Book: The Florida Catalog of Objectives
Module IX-15 Approximately $7.60	Student Tutoring Program, Minipak III: Planning and Implementing a Student Tutoring Program Audio Tape: "Administering a Student Tutoring Program" Filmstrip: "Administering a student Tutoring Program"

Module IX-16 Approximately $1.65	Student Tutoring Program, Minipak V: Tutor Training and Post Assessment Book: Tutorial Manager's Guide for Training Tutors.
Module IX-17 Approximately $1.05	Handbook for Tutorial Programs
Module IX-18 Approximately $10.05	Volunteering in Special Education Audio Cassette Tape: "Volunteering in Special Education" Packet: "The Wonderful World of Volunteer Training"
Module IX-19 Approximately $10.50	Tutoring in Reading and Mathematics Audio Cassette Tape: "Tutoring in Reading and Mathematics" Packet: "The Wonderful World of Volunteer Training"
Module IX-20 Approximately $10.00	Physical Education and the Volunteer Audio Cassette Tape: "Physical Education and the Volunteer" Packet: "The Wonderful World of Volunteer Training"
MODULE IX-21 Approximately $10.35	Becoming a Leader in a School Volunteer Program Audio Cassette Tape: "Becoming a Leader in a School Volunteer Program" Packet: "The Wonderful World of Volunteer Training"
MODULE IX-22 Approximately $3.70	Planning a Volunteers in Education Program

PEER AND CROSS-AGE TUTORING IN SCHOOLS: AN INDIVIDUALIZED SUPPLEMENT TO GROUP INSTRUCTION By Sophie Bloom. National Institute of Education, U.S. Department of Health, Education and Welfare, Washington, D.C.20208, December 1976. Price $.95.

An inexpensive book which explores concepts involved in tutoring and the development of a classroom tutoring program. An annotated bibliography provides a quick survey of recent research on effectiveness of tutors and on approaches to tutoring in the classroom.

TUTORING WITH STUDENTS: A HANDBOOK FOR ESTABLISHING TUTORIAL PROGRAMS IN SCHOOLS, By Ralph J. Malaragro, Educational Technology Publication, 140 Sylvan Avenue, Englewood Cliffs, New Jersey 07632. Price $9.95

This handbook provides a complete model tutorial program for educators who wish to initiate either intergrade or peer tutoring programs with students. The handbook describes both forms of tutoring and provides a thorough field-tested approach to tutoring students based on the Tutorial Community Program of Los Angeles, CA. Included are: (1) sections on planning, teacher preparation and tutor training, sample tutoring procedures, program evaluation and other aspects of tutoring with students, and (2) sample letters to parents, time schedule forms, sample principal letters, workshop guides. Philosophy of the program is "Give individual attention to a hard-to-achieve skill area and it is bound to result in increased learning."

NAME OF PROGRAM	GRADE LEVEL	TUTORS			SPECIAL PROGRAM COMPONENTS											TIME	COST
		Peer	Cross-Age	Adult	Math Specialist	Coordinator	Laboratory	Paraprofessional Aide	Diagnosis	Sequenced Lessons	Record Keeping	Games	Motivation	Parent Information	Teacher Training	Tutor Training (Manual)	Time Spent in Tutoring Session	Start up costs per pupil
High Intensity Tutoring	6-8		X			X	X	X		X	X		X				30 Min.	$ 175.00 *
(b) Student Team Learning	3-12	X								X		X	X		X		20 Min.	1.40
High School Peer Tutoring	9-12	X				X	X	X							X		2 Hours twice wk	100.00
School Volunteer (a) Developments Project	K-12		X	X		X									X	X	30 Min.	2.25
Number Skills (PTP)	K-3			X					X	X						X	20 Min.	2.25 **
Math Combinations (PTP): Addition	K-5			X					X	X						X	20 Min.	2.25 *
Math Combinations (PTP): Subtraction	K-5			X					X	X						X	20 Min.	2.00 *
Math Combinations (PTP): Multiplication	2-8			X					X	X						X	20 Min.	2.00 *
Math Combinations (PTP): Division	2-8			X					X	X						X	20 Min.	2.00 *
Carrying and Borrowing (PTP)	2-8			X					X	X						X	20 Min.	3.75
Time Telling (PTP)	K-8			X					X	X						X	20 Min.	5.00

a- eligible for State Adopter Grant
b- eligible for State Facilitator Support

* includes administrative and clerical staff
** costs less with more students using materials

MATH SKILLS PROGRAMS

USING TUTORS

To receive more information, check the name of the selected product(s) on this sheet. Detach, fold so that address shows, and mail.

Tutoring Kits

_____ NUMBER SKILLS PARENT TEACHING PACKAGE

_____ MATH COMBINATION-ADDITION: PARENT TEACHING PACKAGE

_____ MATH COMBINATION-SUBTRACTION: PARENT TEACHING PACKAGE

_____ MATH COMBINATION-MULTIPLICATION: PARENT TEACHING PACKAGE

_____ MATH COMBINATION-DIVISION: PARENT TEACHING PACKAGE

_____ CARRYING AND BORROWING: PARENT TEACHING PACKAGE

_____ TIME TELLING PARENT TEACHING PACKAGE

Tutoring Programs

_____ HIGH INTENSITY TUTORING

_____ STUDENT TEAM LEARNING

_____ HIGH SCHOOL PEER TUTORING

_____ SCHOOL VOLUNTEER DEVELOPMENTS PROJECT

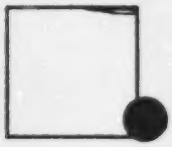
NAME: _____

SCHOOL: _____

ADDRESS: _____

_____

ZIP: _____



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